

# W5YI

America's Oldest Ham Radio Newsletter

## REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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## **FCC Allocates More Spectrum to High Frequency Broadcasting**

At the request of the National Telecommunications and Information Administration (NTIA), the FCC has tweaked its Part 2 Table of Radio Frequency Allocations to conform to international allocation changes made at WARC-79 and WARC-92 that had not previously been addressed. Several radio services were impacted including the Amateur Service.

The change to the Part 97 rules was minimal. A paragraph concerning emergency communications was eliminated from Section § 97.401 to recognize that an International footnote was eliminated from the International Rules. The minor change was part of a 54-page Order released by the FCC on March 3, 2003 (ET Docket No. 02-16).

The most significant action taken by the Order was the reallocation of several bands of high frequency ("HF") spectrum from the fixed and mobile services to the HF Broadcasting (HFBC) service.

Also known as Shortwave or International Broadcasting, HFBC is a radio service licensed by the FCC to operate in the high frequency band. This is an international broadcast service where transmissions are intended to be received by the general public in foreign countries. The rules applicable to this service are located in Part 73 Subpart F of the FCC Rules.

There is one government-owned shortwave broadcasting organization in the United States: the International Broadcasting Bureau, which operates the Voice of America, Radio Free Europe/Radio Liberty, Radio Marti and Radio Free Asia. In addition,

there are a couple of dozen privately-owned shortwave stations throughout the U.S. and its territories that are licensed by the FCC. Most, but not all, of these privately-owned stations are owned by religious broadcasting organizations.

Throughout the world, there are hundreds of shortwave stations. Most governments operate one or more shortwave stations. Other stations are owned by religious organizations. Some are shortwave relays of a commercial AM or FM station intended for audiences in remote areas of that particular country.

Very few countries license privately-owned shortwave stations that are designed to broadcast to foreign audiences. The United States is one of the few countries that permit such broadcasters. In 1979 and 1992, during conferences of the ITU, the HF Broadcasting service was allocated new segments to complement existing HF bands.

### **International Broadcast Frequencies**

The long-range propagation characteristics of HF frequencies enable audio programs to be received directly by the general public in countries far from the country of origin.

In the United States, international broadcast stations transmit on frequencies between 5950 kHz and 26100 kHz. Numerous factors affect the reception of these transmissions, including atmospheric changes that vary with the time of day, climate, and atmospheric noise, as well as co-channel and adjacent channel interference from other international

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broadcast stations around the world.

Unlike other broadcasting services where frequencies are assigned on a permanent basis, international broadcasters are assigned frequencies on a seasonal basis to account for changes in propagation conditions, changing programming needs, and interference conditions.

Internationally, 2930 kilohertz of spectrum in eight HF frequency bands are currently available to the broadcasting service on a primary, exclusive basis. Several of these bands were reallocated from the fixed service to HFBC at the 1979 and 1992 World Administrative Radio Conferences.

The Commission is now adding these international allocations to Part 73, Subpart F of the Rules. Consistent with international footnote 5.147, the Commission adopted a new United States footnote that would allow U.S. Government agencies to continue operating fixed stations in the bands 9775-9900 kHz, 11650-11700 kHz, and 11975-12050 kHz on the condition that harmful interference is not caused to the broadcasting service.

The FCC said "We find that implementing the allocation changes from WARC-79 and WARC-92 concerning HFBC will significantly increase the amount of spectrum available for HFBC, and conform to international regulations. This will promote national interest around the world and increase the international communications provided by HFBC."

"Specifically, we are making an additional 1640 kilohertz of spectrum available exclusively for use by international broadcast stations, with 850 kilohertz immediately available and the remainder available after a transition period that ends April 1, 2007."

## HF Broadcasting bands (All frequencies in kHz.)

Meter Band & Allocation Prior to WARC-79	Added at WARC-79 (Eff. 1/1/1999)	Added at WARC-92 (Eff. 4/1/2007)	Total Worldwide (Eff. 4/1/2007)
49 5950-6200		5900-5950	5900-6200
41		7300-7350	7300-7350*
31 9500-9775	9775-9900	9400-9500	9400-9900
25 11700-11975	11650-11700 & 11975-12050	11600-11650 & 12050-12100	11600-12100
22	13600-13800	13570-13600 & 13800-13870	13570-13870
19 15100-15450	15450-15600	15600-15800	15100-15800
16 17700-17900	17550-17700	17480-17550	17480-17900
15		18900-19020	18900-19020
13 21450-21750	21750-21850		21450-21850
11 25600-26100	25670-26100**		25670-26100

\* The band 7100-7300 kHz is allocated to the broadcasting service on an exclusive basis in ITU Region 1 and Region 3. The ITU divides the world into three geographic Regions. The United States is in Region 2, which includes North and South America. In Region 2, the band 7100-7300 kHz is

allocated to the amateur service on a primary basis, but its use "shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3."

\*\* At WARC-89, the band 25600-25670 was reallocated from the broadcasting service to the radio astronomy service.

"Until the completion of the transition period (1999 to 2007), fixed and mobile stations will be allowed to continue to operate on a primary basis; after that date, these stations will be allowed to continue to operate on the condition that 'harmful interference' is not caused to the broadcasting service."

"This action significantly increases the amount of spectrum available to international broadcasters on a worldwide basis, thus facilitating the sharing of information and entertainment by people throughout the world."

Toward that end, the FCC updated the rules for international broadcast stations (Part 73, Subpart F) in order to add the new frequency bands and to otherwise conform to international regulations.

This is especially significant to the Amateur Service since it reduces some of the pressure from HF Broadcasters who are constantly looking for more spectrum.

## Amateur Service

The Commission proposed to delete international footnote 5.120 and Section 97.401(b) from the Rules. International footnote 5.120 lists the amateur bands that are to be used in the event of natural disaster: 3500 kHz, 7000 kHz, 10100 kHz, 14000 kHz, 18068 kHz, 21000 kHz, 24890 kHz, and 144000 kHz.

These rule sections reference ITU Resolution No. 640, which invited administrations to provide for the needs of international disaster communications and for the needs of emergency communications within their national regulations using certain amateur bands. However, WRC-97 and WRC-2000 deleted Resolution 640 and international footnote 5.120.

Because ITU Resolution No. 640 and international footnote 5.120 have been removed from the ITU Radio Regulations, the FCC has now deleted footnote 5.120 and Section 97.401(b), from its rules. "We do not think this will have an impact on the amateur service emergency communications because Sections 97.111(a)(1) and 97.101(c) of our Rules allow amateur stations to communicate with foreign stations in disaster areas, making the provisions based on the former ITU Resolution No. 640 unnecessary," the Commission said.

Section § 97.111(a)(1) reads as follows: "(a) An amateur station may transmit the following types of two-way communications: (1) Transmissions necessary to exchange messages with other stations in the amateur service, except those in any country whose administration has given notice that it objects to such communications. The FCC will issue public notices of current arrange

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ments for international communications."

Section § 97.101(c) reads as follows: "At all times and on all frequencies, each control operator must give priority to stations providing emergency communications, except to stations transmitting communications for training drills and tests in RACES."

Part 97 Amateur Radio Service is now amended by removing paragraph (b) and by redesignating paragraphs (c) and (d) as (b) and (c), respectively. Section 97.401 now reads as follows:

## § 97.401 Operation during a disaster.

(a) When normal communication systems are overloaded, damaged or disrupted because a disaster has occurred, or is likely to occur, in an area where the amateur service is regulated by the FCC, an amateur station may make transmissions necessary to meet essential communication needs and facilitate relief actions.

(b) When a disaster disrupts normal communication systems in a particular area, the FCC may declare a temporary state of communication emergency. The declaration will set forth any special conditions and special rules to be observed by stations during the communication emergency. A request for a declaration of a temporary state of emergency should be directed to the EIC in the area concerned.

(c) A station in, or within 92.6 km of, Alaska may transmit emissions J3E and R3E on the channel at 5.1675 MHz for emergency communications. The channel must be shared with stations licensed in the Alaska-private fixed service. The transmitter power must not exceed 150 W.

## PLC: PIGGYBACKING ON THE POWER LINE

Power line communications is regarded as a threat the Amateur Radio in Europe. The most recent IARU Region 1 Newsletter tells how European radioamateurs are very concerned about the proliferation of power line communications (PLC) which, among other uses, is being explored for distributing digital communications.

Power-line networking is based on the concept of "no new wires." PLC works by transmitting high frequency data signals through the same power cable network used for carrying electricity power to household customers. In the house, adapters are used to filter out the voice and data signals and to feed them to the various applications (e.g. PC/Internet, telephone, etc.).

The power line networking signals are in the 4- to 21-MHz range, far from the power grid's normal operating frequency of 50 hertz or 60 hertz but right in the key HF communications range used by radioamateurs. The lower frequency signals carry power, while the higher frequency signals transmit data. Powerline solutions are unintentional radiators and their emissions can potentially cause interference to sensitive radio equipment.

PLC is where digital communications (such as the Internet) are superimposed on existing electrical power

distribution wires. Unlike coaxial cable where the radiation is contained, PLC is over the unshielded copper network. Moreover, all kinds of appliances are connected to the power system by the end users and high levels of HF radiation are being experienced.

PLC in Europe exists in two flavors: "Access PLC" where power utilities offer Internet access over the power grid and "Indoor PLC" where modems are used over the power system for indoor local area networks ('pLAN'.) Digital power lines are believed to be able to carry data at roughly the same speeds as cable or DSL lines.

The European PLC industry is heavily lobbying for a relaxation of the radiation limits in order to better deploy the technology while HF user groups are banding together to resist the threat. The European Commission clearly favors PLC as another tool for widespread market competition. "Apparently, short wave broadcast and HF amateur radio are not considered as important. Only security services need protection," the newsletter said.

Member IARU-Region 1 societies are being urged to forward complaints of interference caused by PLC technology to a central location so that they may be lodged with the proper authorities. Power line technology in Europe is more widespread than in the Americas.

## PLC is on its way to the U.S.

The 'Southeast Missourian' newspaper (Feb.24, 2003) tells how high speed power line Web access is being tested in Cape Girardeau, MO. It quotes FCC Chairman Mike Powell as saying PLC "could simply blow the doors off" broadband because every building has a power plug. Power line broadband is particularly being eyed for rural areas where high speed access has lagged. The Missouri trial participants are getting the PLC Broadband for free.

A **Power Line Communications Association** (PLCA) has been formed which currently consists of 12 utility company members and some equipment vendors. These utilities bring U.S. potential PLC coverage to over 20 million households. See: <[www.plca.net](http://www.plca.net)>.

The **HomePlug Powerline Alliance** is developing standards so different power line networking products can work together. The group includes many big name technology companies ...including Cisco Systems, Intel, RadioShack, Motorola and Hewlett-Packard.

Besides Internet access, PLC is also being tested as a carrier for video-on-demand, local phone, and long distance phone services to customers ...even distributing music throughout the home. More about this at: <[www.powerlinephones.com](http://www.powerlinephones.com)>.

**SmartHome's Wireless Phone Jack System** eliminates rewiring your house to add an extra phone jack. You simply plug a telephone line into a gadget the size of a night light and every electrical outlet in your home can become a phone jack. You plug the phone into the another wireless jack device which is then inserted into any electrical outlet. It too uses PLC. <[www.smarthome.com](http://www.smarthome.com)> click on "phones."

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## CUTTING EDGE TECHNOLOGY

**X-Ray vision for combat soldiers. Portable Ultra Wideband (UWB) systems** ...otherwise known as ground-penetrating radar (GPR) have been developed for military use and will be used if U.S. forces invade Iraq.

Handheld UWB "SoldierVision" – a low power through-wall surveillance device – can see an outline of people behind a wall and even identify if they are armed.

The military will use the new technology in urban environments as a way to detect where the enemy is and how many individuals there are behind an obstruction. The 8-pound units have a range of about 30 feet. A similar "RadarVision" unit has been released for civilian use.

More powerful units mounted on trucks or helicopters can see deep underground to find bunkers and storehouses where missiles and weapons may be hidden.

An UWB system transmits a stream of ultrashort pulses across a wide band of frequencies every second and can penetrate even concrete. Enough pulses bounce back from underground or behind a wall to construct an image.

Another top-secret weapon are RF or microwave bombs able to fry electronic equipment to take out Iraqi targets such as computers and the refrigeration systems needed for biological weapons.

**Dual band handsets are on the way! The Wall Street Journal reported on a new line of wireless handsets designed to work on Wi-Fi networks** that will be available in the next 12 months. The phones will be capable of handling Internet surfing and users can also make voice calls. When the phones are outside of Wi-Fi coverage, users can switch over to traditional cellular networks.

**Sony will begin selling the world's first high-definition DVD recorder in Japan this month that uses blue laser light** and can pack a two-hour high-definition TV program onto a single disc. Blu-ray technology is designed to allow a single-sided DVD disc to hold up to 27GB of storage. Currently, DVDs hold 4.7GB of data.

It won't be cheap; retail price, about

\$3,800. Low-end DVD recorders using conventional red lasers go for as little as \$425. The machine will give Sony a head start over its partners in the Blu-ray consortium, a nine-member group of industry heavyweights that finally agreed on common specifications for blue laser DVDs on February 17.

## EMERGING COMMUNICATIONS

**South Korea leads the world in wireless technology and boasts broadband penetration to some 70% of households** ...compared to only 20% of U.S. households. Broadband of the sort South Korea deploys for \$33 per month runs at a pace of eight megabits per second ...about ten times as fast as our DSL and cable modems. Average South Korean service is fast enough to stream high resolution HDTV images onto a computer screen. "By Asian standards, the U.S. has virtually no residential broadband at all." [Source: Wall Street Journal]

**More than 33.6 million Americans accessed the Internet via broadband in December 2002**, according to the latest Nielsen-NetRatings study. This marks an increase of 59 percent compared to December 2001.

**The next revolution ...unwiring the Internet. According to Allied Business Intelligence, some 60 million people will be accessing Wi-Fi "hot spots" by 2006.** WiFi, which stands "wireless fidelity," promises to do for computing what cell phones did for voice communication.

T-Mobile is the first mobile phone carrier in the United States to get into the Wi-Fi hotspot business and is in the process of rolling out a national network. The firm and Intel Corp., have announced a joint marketing agreement to promote T-Mobile's WiFi (802.11) WLAN (wireless local area network) high-speed wireless Internet access service, or "hot spots."

T-Mobile provides a full T1 connection to every location ...speeds of up to 1.5 Mbps, about as fast as a cable modem. The only software you need is the software driver for your Wi-Fi 802.11b wireless network card and an Internet-ready web browser.

The program coincides with the March 12<sup>th</sup> introduction of Intel's "Cen-

trino" mobile technology for notebook PCs that feature built-in wireless capability. A key feature of Centrino is that it will give users greatly extended battery life by consuming less power.

Market research firm IDC predicts that wireless-enabled notebooks will represent 35 percent of all mobile PC sales in 2003 and 96 percent in 2006. In other words, Wi-Fi enabled notebooks will become the standard. Dell and IBM are launching the first Centrino WLAN embedded products.

T-Mobile announced new reduced pricing plans beginning March 1<sup>st</sup> for its "HotSpot" service, ranging from \$29.99 month (with a one year commitment) for unlimited Wi-Fi access to 10 cents per minute (with a one-hour minimum) for pay-as-you-go customers.

The T-Mobile HotSpot service will initially be available at more than 2,200 locations nationwide ...including Starbucks coffee houses, national and regional airports and American Airlines Admirals clubs. The previous 500MB restriction on data transfers has also been eliminated.

T-Mobile is in the process of adding many new locations, including more airports, Borders Books and Music, and United and Delta Air Lines clubs and lounges. The latest airport to get T-Mobile Wi-Fi service is San Francisco International Airport on March 5<sup>th</sup>. And travelers may soon get WiFi while on the airplane. It is being tested.

A massive national "Unwire the Web" ad campaign will promote Centrino and the T-Mobile HotSpot service. Check out: <[www.t-mobile.com/hotspot/](http://www.t-mobile.com/hotspot/)>

**Not to be outdone, AT&T Wireless is in the process of joining T-Mobile.** They will offer "GoPort" a Wi-Fi Web surfing service. Customers sign-up for service through a Web page. Pricing for GoPort is \$9.99 for a 24-hour connection.

**Toshiba also plans to be a dominant Wi-Fi player and will roll out ten thousand 802.11(b) "hot-spots" across the U.S. this year.** The Toshiba "Hotspot in a Box" is a \$199 kit being offered to big national corporations as well as to local resellers who will cash in on installation and set-up deals.

In a three partner program, Accenture (a management consulting and technology services company) will provide the billing and help-desk support; Toshiba

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provides the hardware and network. Resellers sell and install hardware ...and conduct maintenance. Users pay by pre-paid hotspot coupon (much like a prepaid phone card) or by credit card for a 24-hour connection.

One reseller already has a contract to install Wi-Fi service in 17,000 Circle K convenience stores and gas stations owned by Houston-based ConocoPhillips. See: <csd.toshiba.com>.

**T**here are now more digital cable subscribers than direct broadcast satellite (DBS) subscribers. According to a new study from Leichtman Research Group, the number of U.S. digital cable subscribers has passed the 20 million mark. But retaining them may be a challenge. Other findings:

- Digital cable subscribers spend on average more than \$56 per month, 50 percent more than analog cable subscribers;
- 28 percent of digital cable subscribers also get broadband Internet service from their cable operator, nearly three times the rate of analog cable subscribers;
- Of former digital cable subscribers, 40 percent no longer subscribe to cable TV at all;
- 15 percent of those who have never had digital cable said they are very interested in subscribing to the service, but 54 percent of the group said they have chosen not to get digital cable because it's too expensive.

"The major cable operators in the United States now deliver digital cable to about 30 percent of all subscribers, yet the industry added fewer digital subscribers last year than in 2001," said Bruce Leichtman, president and principal analyst for Leichtman Research Group.

"To maintain growth of digital cable, operators will need to offer more reasonably priced step-ups from analog cable, and continue to add value to the digital cable offering via new channels and services like on-demand TV and HDTV."

**G**eneral Motors is looking to get out of the satellite business and wants to sell off its Hughes subsidiary, the parent of (DBS) direct broadcast satellite company, DirecTV, the nation's leading dish service. U.S. anti-trust officials previously blocked an EchoStar-DirecTV merger, claiming the satellite TV combination would be anti-competitive.

Citing tax and antitrust considerations, media conglomerates Liberty Media and News Corp., which had been negotiating to purchase Hughes, have called off the deal. According to the Wall Street Journal, News Corporation and Liberty Media will now work on separate deals to acquire the company.

Owning DirecTV would give Australian-based News Corp the missing piece of a global satellite network. News Corp owns the Fox television network, Hollywood studio 20th Century Fox and 21 regional sports channels.

DirecTV would broaden Liberty's already big stable of media properties, which includes stakes in the Discovery, Starz-Encore movies, Animal Planet, QVC channels, AOL Time Warner Inc. and Viendi Universal studios ...all important suppliers of programming to DirecTV.

Liberty is the second biggest News Corp shareholder behind CEO Rupert Murdoch with an 18 percent stake.

**S**BC Communications has also joined the bidding for DirecTV which has approximately 11 million subscribers. Texas-based SBC, formerly known as Southwestern Bell is the second-largest phone company in the U.S. after Verizon.

Another suitor, Sony Corp. is rumored to be considering using DirecTV as a distribution outlet for its Hollywood movies.

We also heard that General Electric Co. (which owns the NBC network, including MSNBC, the business channel CNBC and newly acquired arts channel Bravo) or media giant Viacom Inc. (which owns CBS) may be interested. And the name, Microsoft keeps popping up.

DBS looks like the media distributor of the future. It is gaining in popularity while cable TV is declining. Based on the FCC's 2002 annual report, the cable industry's market share now stands at 76.5 percent ...down from 78 percent a year earlier. Direct satellite-TV providers, such as DirecTV and EchoStar, meanwhile, are at 20.3 percent and growing.

## COMPUTERS & SOFTWARE

**W**orldwide PC shipments are forecast to reach 33.2 million units in the first quarter of 2003, a

4.8 percent increase from the first quarter of 2002, according to a preliminary forecast by Dataquest Inc., a unit of Gartner, Inc. By the end of 2003, worldwide PC shipments are expected to rebound and total 138.7 million units, a 7.9 percent increase from 2002.

## GADGETS & GIZMOS

**A**ccording to a research survey, 2002 was a relatively slow year for the cell phone industry. Between 1990 and 2000, mobile phone sales expanded at up to 60 percent a year.

The survey said that 422 million handsets were sold to end-users worldwide in 2002, compared with 412 million in 2001, only a 2.3 percent increase.

Market leader Nokia's share in 2002, was 36.1 percent, compared with 35.6 percent a year earlier. Motorola increased its share from 14.9 percent to 16.8 percent. South Korea's Samsung saw its share increase to 10.1 percent, versus 7.3 percent in 2001. Siemens (Germany) ended up with an 8.5 percent share, up from 7.3 in 2001.

One of the reasons might be that wireless subscribers are replacing phones every 18 months on average, compared with a average replacement rate of every 16 months in 2000.

The average selling price for mobile phones in 2002 was \$75, down from an average of \$100 in 1999. About 70 percent of Europe's households have a cell phone, compared to 50 percent in the United States.

Nokia's CEO says the mobile phone industry is slated to grow substantially. He believes that by 2005 there could be as many as 1.5 billion mobile phone users worldwide, 50 percent more than currently exist.

**B**oston-based research firm, Strategy Analytics said that sales of camera phones will reach 37 million worldwide in 2003, more than double those sold in 2002. Camera phones allow users to transmit still images to virtually any device capable of receiving e-mail.

Half of all camera phones sold last year were sold in the fourth quarter. Japan accounted for 13 million of the 18 million camera phones sold in 2002. The

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research firm expects camera phones to outsell handheld computers globally this year and outpace the entire digital-camera market by 2004 ...reaching 54 million units.

**V**ideocassettes and VCRs are quickly going the way of the 8-track tape. Forty million households now have a DVD player ...almost half of all homes that have a TV set. It won't be long before Hollywood studios stop offering VHS cassettes. USA-Today recently reported that MGM recently slashed its VHS movie library by nearly 90 percent. Columbia TriStar is phasing out certain VHS catalog titles once they are released on DVD. And some popular Fox Home Entertainment VHS films are being dumped on the marketplace for as low as \$5. Retailers like Circuit City, Barnes & Noble, Best Buy, WalMart and Target are getting out of the VHS cassette business completely.

**B**lockbuster has better watch out. Netflix, (Los Gatos, CA), is now the world's largest movie rental service. The popular DVD rental service, reports that it has just surpassed the million-subscriber mark. It had 857,000 customers at the end of 2002.

Netflix, which has only been in business since 1999, is predicting that it will surpass 5 million subscribers in another half dozen years. Their DVD library has more than 13,500 titles. Back in 1997 -- the first year that DVD players became available -- only 528 DVD titles were available. Now more than 50 new DVD titles are released by major studios every week!

Netflix subscribers pay \$19.95 a month to rent as many as three DVDs at a time from the company's Web site ...and you can keep them as long as you want. Return the DVD in a postage-paid envelope and Netflix will mail you another from your online list. The movies are delivered practically overnight by first class mail from 17 warehouses scattered around the country. See: <www.netflix.com>.

## INTERNET & WORLD WIDE WEB

**W**ith states around the country facing a collective \$50 billion budget gap this year and \$70 billion next year, lawmakers are increas-

ingly eyeing online revenues to plug their shortfalls. Last year, Internet sales ballooned to \$79 billion, or about 3% of all retail sales, according to Forrester Research. Most online sellers such as Seattle-based Amazon.com Inc. say it is impossible to collect sales taxes for an estimated 7,500 taxing districts nationally. [Source: Associated Press]

Bill Curry, a spokesman for Amazon of Seattle, said complying with the agreement is difficult because of a mishmash of sales taxes in areas like the 80212 zip code in Colorado, where rates range from 4.3% to 8%. "How are you supposed to know what to charge?" Mr. Curry said. [Source: Dow Jones Newswire]

Jupiter Research recently published a report arguing that collecting taxes won't drastically affect online retailers' customer base. Some 82 percent of survey respondents either didn't know they could avoid paying a sales tax online, or were aware but said it didn't play a role in how they chose between retailers. [Source: CNN-Money]

The study debunks the belief of retailers that online shoppers would click to another site as soon as they discovered purchases carried a sales tax. Jupiter found that only 46 percent of consumers were aware that they could avoid the levy by searching for a tax-free site. Of those savvy shoppers, 61 percent didn't go out of their way to avoid a sales tax. In addition, only 9 percent "always look" for non-tax sites, and 30 percent "sometimes look" for the better deal. [Source: TechWeb News]

Major retailers like Target and Wal-Mart have begun collecting state taxes for online sales. Their goal of meshing their Web and store operations -- by making pickups and returns possible -- made that a necessity. Retailers by law must collect sales taxes in states where they have a physical presence. [Source: Detroit Free Press]

**A**ccording to Forrester Research, online cigarette sites will sell \$2.2 billion worth of cigarettes this year, up from \$1.2 billion last year. Forrester projects sales of \$5 billion in 2005.

A study at the University of North Carolina School of Public Health identified 195 Internet cigarette vendors, up from 88 the previous year, and roughly half of those sat on American Indian reservations which are exempt from state sales taxes.

The Washington State Department of Revenue estimates that 40 percent of the cigarettes smoked in the state are contra-

band -- smuggled in, bought at tax-exempt Indian reservations or purchased over the Internet.

The 1949 federal Jenkins Act requires anyone selling cigarettes across a state line to an individual or unlicensed distributor to report the transaction to the state's tobacco-tax administrator but there is practically no compliance with the law. And federal authorities do not go after offenders since the violation is a misdemeanor.

**A** smoker in New York pays as much in sales and tobacco taxes (\$30) as Internet sites charge for a carton of cigarettes shipped to your door.

A federal appeals court has upheld a New York State law that prohibits the sale of cigarettes online or via telephone or mail order and the law goes into effect immediately. The 2nd U.S. Circuit Court of Appeals reversed a federal court ruling that had thrown out the state law.

The new law also requires retailers who ship cigarettes to NY state customers in other than the manufacturers original shipping container to visibly label the new box with the word 'cigarettes'.

It is now a Class E felony for a person convicted of possessing or selling unstamped or unlawfully tax stamped cigarette packs.

And a new California law requires Internet and mail-order tobacco sellers who do not collect the state excise taxes to include on the outside of the shipping container a notification that the merchant has told the state about the sale, and that the customer is liable for taxes.

**M**assive growth ahead in Net traffic. International Data Corporation (IDC) predicts that the volume of Internet traffic generated by end users worldwide will nearly double annually through 2007.

In 5 years, Internet users will access, download and share information 64 times the volume of the entire printed collection of the Library of Congress every day.

Broadband access will be the largest driver of the surge in access to Web-based information. Mobile Internet users will have only a minimal impact on Net traffic.

IDC also predicts that consumers will account for 60 per cent of all Internet traffic generated, compared to around 40 per cent for business users, by 2007.

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**O**ver half a billion people worldwide now have Internet access, according to new research from Nielsen-NetRatings. The U.S. now accounts for 29 percent of the global Internet access universe, followed by Europe with 23 percent, Asia-Pacific with 13 percent, and Latin America with two percent.

**O**nline retail sales in the US surpassed \$45 billion in 2002, reports E-commerce Times.

According to new figures released by the U.S. Department of Commerce, online retail sales totaled \$14.3 billion in the fourth quarter of 2002, a rise of 28 percent on the preceding quarter. (Not including online travel sales.)

The Department of Commerce figures also indicate that e-commerce sales during the fourth quarter of last year were equivalent to 1.6 percent of all retail sales, up from 1.3 percent in Q3.

**J**upiter Research forecasts that online retail spending in the U.S. will grow by 28 percent in 2003 to \$52 billion.

The research company estimates that by 2007, online retail spending will reach \$105 billion and account for five percent of all U.S. retail spending.

More significantly, by 2007, the Internet will influence 34 percent of all US retail spending.

Jupiter estimates that online retail sales will grow at an average annual growth rate of 21 percent between 2002 and 2007.

**C**heck out complaints from consumers about various corrupt and questionable companies online at: <www.RipOffReport.com>. Reports are published daily.

**A**mazon.com, the world's largest Internet retailer, has been approved by the Internet Corporation for Assigned Names and Numbers, or ICANN to begin selling Internet addresses to companies and individuals.

Amazon.com was recently accredited as a so-called "domain name registrar," making the Internet retailer one of about 160 companies that are allowed to register Internet addresses or domain names that end in suffixes such as .com, .net, .org, .info and .biz.

**T**he original Alexandria Library in Egypt was destroyed more than a thousand years ago. But the dream of collecting every one of the world's books has been revived in a new arena: online.

The directors of the new Alexandria Library want to make virtually all of the world's books available at a mouse click. Many libraries already provide access to electronic books, but by using new software, the Alexandria Library plans to make more books accessible than ever...especially to developing countries many of which have no libraries.

The idea faces staggering logistical, legal and technical obstacles: copyright infringement, high costs and language barriers, to name just a few. Its success will depend on its ability to raise money from foundations and to forge links with governments and major universities that can offer access to their own books and materials.

The library will also have access to one million books that are now being scanned by Carnegie Mellon University. And the library has a vast trove of Web material already donated by the Internet Archive, a California partner with similar universal ambitions. The collective then plans to begin bargaining for access to digital collections at other libraries and universities around the world, offering access to its own materials and its network of scholars in exchange.

Users of the Alexandria software will visit the Web site and link to online texts much like a standard commercial browser. [Reported by the New York Times]

**T**he American Library Association says the Children's Internet Protection Act (CIPA) violates the First Amendment and public libraries should not be forced to install software that filter out pornography as a condition of receiving federal money.

Librarians and civil liberties groups contend the filters are censorship and eliminate vast amounts of valuable health, scientific, social and political information.

"Internet filters inevitably block access to many thousands of Web sites that do not meet the software companies' own definitions, let alone those set forth in CIPA," the American Library Association said. "The state may not censor protected speech in order to suppress unprotected speech." The group says parents and not the government should be monitoring their children's activity.

A lower federal court in Philadelphia last year agreed. The Bush administration appealed the case to the Supreme Court which will now look at how government can protect the public from adult Internet sites without choking free speech.

This is the third try by Congress to regulate offensive Websites. Two previous laws to regulate access to online smut were struck down by the Supreme Court.

The Supreme Court decision, expected by the court's recess in June, will determine whether the Children's Internet Protection Act is overturned. More info at: <www.ala.org/cipa>.

## WASHINGTON WHISPERS

**N**ew aviation surveillance system shrouded in secrecy...privacy advocates up in arms about new airline passenger profiling system.

The U.S. Department of Transportation is in the process of creating a database of airline passengers. This database, which would be exempt from the Privacy Act, would be used in the war against terrorism. The Aviation Security-Screening Record ("Passenger Database") would be used "...to review, analyze, and assess threats to transportation security and respond accordingly."

The new Transportation Security Administration plans to routinely collect passenger manifest information on all airline travelers and store it in a large centralized database. If a person is determined to be a "risk," the data will be stored for 50 years - otherwise it is eventually discarded.

It is not known how an individual will be deemed to pose a possible risk to transportation or national security and apparently no one will be made aware of their security risk classification or how it might be legally challenged.

When a person is determined to be a risk, the "watch list" will be populated by detailed data about that person including "...risk assessment reports; financial and transactional data; public source information; proprietary data; and information from law enforcement and intelligence sources."

**The proposed Passenger Database is apparently the foundation of another airline security initiative, the Computer Assisted Passenger Pre-**

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**Screening System-II.** The CAPPS-II program is a narrowly focused threat assessment tool, based on continuously changing intelligence information and threat priorities and is an upgrade of the first generation system created by the FAA and airlines in the late 1990s.

In a nutshell, CAPPS-II identifies threats to aviation security by analyzing and evaluating multiple-source data on every ticketed passenger on every airline to determine whether the passenger poses a security risk or threat to the traveling public. The computerized profiling system uses artificial intelligence to make judgments about who may have violent intentions.

Under the plan, the government will check passenger names against databases containing government watchlists, personal background information, and credit card and financial information. The system then immediately generates a red, yellow or green designation for each passenger.

The transportation agency won't say what databases it will use, or what characteristics will cause a person to be flagged. Few details about the program have emerged publicly because officials worry that the more terrorists know about it, the less effective it will be.

Lockheed Martin was awarded the contract to develop the automated CAPPS-II passenger risk assessment system. CAPPS-II is already being tested and will be rolled out nationally by year end.

**O**n Feb. 1, the Shuttle Columbia was lost on its return to earth. Investigators now search for the cause. You can follow the investigation online at the Columbia Accident Investigation Board's website at: <[www.caib.us](http://www.caib.us)>.

**R**ichard H. Weil, KW0U of St. Paul, MN has filed a Petition for Rulemaking seeking to extend the license term of all commercial radio operator licenses to the lifetime of the holder.

Weil argues that in 1985, the FCC made the popular General Radiotelephone Operator License (PG) a lifetime certificate. Most other license classes still have five-year terms including the Marine Radio Operator Permit (MP), the GMDSS Radio Maintainer's (DM), the GMDSS Radio Operator's (DO) and the GMDSS Operator/Maintainer (DB) Licenses.

"This situation is clearly arbitrary. The holder of an MP must renew, but if this person upgrades to a PG he or she

then has a lifetime certificate. If this same licensee then obtains a DM, which has all the privileges of a PG, it is again subject to renewal."

"With the disappearance of commercial radiotelegraphy it appears likely that the operator licenses for this service will be discontinued. By making the MP, DO, DM, and DB into lifetime documents, a significant paperwork burden will be removed from the Commission's workforce, since in time no operator certificates will need to be renewed."

The petition was received by the FCC on November 22, 1999, - three and a half years ago! But for some unknown reason, it was never acknowledged by the FCC.

At the urging of Weil's Congressman, the FCC has now agreed that the proposal may have merit and has accepted it for preliminary public comment. The 30 day comment period on RM-10647 closes March 14, 2003.

**R**epublican FCC Commissioner Kevin Martin agrees with Democrat Commissioner Michael Copps that network-television content has become too racy. Both support the creation of a prime-time "family hour," when networks would be prohibited from showing programming containing sexual or violent content.

The newest FCC commissioner, Democrat Jonathan Adelstein is also believed to be sympathetic to it. FCC Chairman Mike Powell opposes the initiative on First Amendment grounds. It could mean another defeat for Powell and the Republican-dominated FCC.

## AMATEUR RADIO

**N**ew RF safety regulations that set limits for human exposure to electromagnetic radiation (EMR) for the Amateur Service have now begun in Australia. The new regulations cover all licensed transmitters as of March 1st. The Australian Amateur Radio rules have been amended to reflect the new EMR limits that ensure a transmitter is operated at safe levels for general public exposure to radiation.

**C**yprus is the latest nation to reduce its code exam speed to 5 words-per-minute for full HF band

privileges. The change took place in February 2003.

**A**ccording to the ARRL, pupils at an elementary school in Japan were the first youngsters to speak to the astronauts aboard the International Space Station since the shuttle Columbia tragedy. The contact took place February 18 between 8N3HES at the Hirano Elementary School and astronaut Don Pettit, KD5MDT, at the controls of NA155.

The direct 2-meter contact was arranged by the Amateur Radio on the International Space Station (ARISS) program, which has been on hold since the shuttle catastrophe. No one asked any questions about the Columbia tragedy during the approximately 10-minute contact that was marred by some communication difficulty. Pettit managed to answer eight of the nine questions put to him by the fifth and sixth graders.

**A**n 802.11(b) high speed Internet link was used by hams in Nacogdoches, TX during the Shuttle Recovery efforts. The equipment for the link was provided by Michael Willett, KD5MFM from McKinney, Texas, to link Net Control in Nacogdoches with the Internet. The system was installed by Michael and several local Nacogdoches hams, including Robert Judy KD5FEE, James McLaughlin KD5POY, and Tim Lewallen KD5ING on Saturday, one week after the shuttle disaster.

The link utilized a mix of directional antennas to provide a robust quarter mile link through the intense radio traffic in the area. The radio cards were set to produce 100mw of power and utilize the Direct Sequence Spread Spectrum encoding/modulation technique with a center frequency of 2437 MHz (U.S. channel 6).

Net Control utilized the link for looking up call signs, communicating quickly with e-mail, and monitoring weather radar, as rain tracked across the area often during the week after the shuttle event.

This application and installation of the 802.11b link was one of many examples demonstrating the extensive capabilities of Volunteer Ham Operators, government authorities and local businesses teaming together to help during a crisis event.

Pictures of the link as well as other operations may be seen at: <[www.k5rwl.org/Shuttle/index.html](http://www.k5rwl.org/Shuttle/index.html)>. (Thanks: Richardson Wireless Klub)

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## RUSSIAN SOYUZ WILL BRING SPACE STATION CREW HOME

Since the space shuttle is indefinitely grounded, the job of transferring the crew members to the 130-ton International Space Station has fell to Russia.

NASA has made a decision to deliver two members – one American and one Russian – instead of the usual three in early May using the Russian Soyuz TMA-2 spacecraft which is normally held in reserve as the space station's escape lifeboat.

It will be the first crew member exchange since the Shuttle Columbia catastrophe. It was decided to go with a two-person crew because only a limited amount of supplies, particularly water, can be delivered to space station aboard the automatically flown Russian Progress supply vehicle while the shuttle fleet is down.

The station's current Expedition-Six crew members, Americans Commander Kenneth Bowersox, KD5JBP and NASA ISS Science Officer Donald Pettit, KD5MDT ...and Russian Flight Engineer Nikolai Budarin, RV3FB, will return to earth on May 13, about a week after the new crew arrives. They have been in orbit since November 23.

The Expedition-Six team is the third all-ham crew to serve aboard the ISS. The Shuttle Atlantis was supposed to pick them up in March, but their mission was extended two months because of the Columbia investigation. Their Soyuz TMA-1 spacecraft, now docked to the station, will land in Kazakhstan, Russia's normal landing site.

The replacement Expedition-Seven crew will also be all licensed hams and officially will consist of either U.S. Astronauts Michael Foale, KB5UAC or Edward Lu, KC5WKJ ...and either Russian cosmonauts Alexander Kaleri, U8MIR or Yuri Malenchenko, RK3DUP. But it is rumored that the Malenchenko and Lu will be the ones chosen; the final selection will not be announced until mid-March.

Malenchenko, 41, and Lu, 40, have already flown in space together. On the STS-106 Atlantis mission in September 2000, they spent 10 days aboard the international space station preparing it for the arrival of its first permanent crew the following month. If the shuttle is not flying by October, another two-man rotation will be made with Kaleri and Foale flying to the station aboard Soyuz TMA-3.

Scientific experiments and ham radio school contacts will continue aboard the space station. Assembly of the space station has been halted, however, since it is the space shuttle that is used to deliver new hardware sections. The space station is expected to cost close to \$100 billion before it is completed.

Pending the outcome of the Columbia accident investigation and until the space shuttle is able to return to flight, the Soyuz spacecraft will be used for crew rotation and the Progress vehicle will ferry supplies. NASA said these two spacecraft could be used indefinitely. But, if need be, a totally unmanned Space Station could remain aloft for up to a year. More at: <spaceflight.nasa.gov>.

## NASA RELEASES SPECS FOR NEW ORBITAL SPACE PLANE

*The vehicles and associated systems will support U.S. International Space Station requirements for crew rescue, crew transport, and cargo. Based largely on existing technologies, the Orbital Space Plane would provide safe, affordable access to the International Space Station. [Source: NASA.]*

Currently under development by the aerospace industry, the Orbital Space Plane (OSP) will be a key element of NASA's next generation space transportation system. The shuttle fleet is expected to possibly fly through about 2020, with the OSP vehicle becoming available in about 2010. It will be operated at least through 2020. The OSP will replace the space shuttle as the primary crew transport vehicle, freeing the orbiter fleet to focus on heavy cargo delivery.

NAA's newly released "Level One" guidelines set the foundation for the design of the OSP vehicle and its associated systems.

Initially, the vehicle will be used to satisfy Crew Return Vehicle functions, serving as an "emergency evacuation vehicle" for astronauts on board the Space Station, a task now handled by the Russian Soyuz spacecraft.

"Compared to the Space Shuttle, the [OSP] system shall require less time to prepare and execute a mission, have increased launch probability and have increased on-orbit maneuverability," NASA said. "By 2012, the Orbital Space Plane will be used to ferry crew and light cargo to the Space Station. In time, the project could become the foundation for a crew transfer vehicle routinely flown to space on a new launch vehicle."

"By separating crew and cargo, and only flying crew members when needed, the OSP will permit significant reductions in the cost of taking payloads to orbit."

The Boeing Company (Seal Beach, CA); Lockheed Martin Corp. (Denver), Northrop Grumman (El Segundo, CA) and Orbital Sciences Corp. (Dulles, VA) - are all working to develop 2nd generation reusable spacecraft.

The proposed OSP design by Orbital Sciences Corp. is approximately 50 feet long, and has a wing span of 34.5 feet. A photo can be seen at: <www.orbital.com>.

Orbital's OSP can be launched on an existing expendable launch vehicle (Delta IV, Atlas 5 or Ariane 5) or a 2nd generation Reusable Launch Vehicle once that system becomes available.

Their OSP will have a limited capacity to transport cargo. On its return to earth, it will land like an airplane, much like the current space shuttle.

Orbital's vehicle can comfortably accommodate 5 crew members for a total of 20 crew-days who would not be required to wear space suits while in the vehicle. A typical crew would consist of a Commander, a Pilot, and 3 ISS expedition crew members. For an emergency return, the OSP can accommodate up to 7 crew members.

It may not be known for some time exactly what affect the Columbia accident has on the long-term future of the OSP and the shuttle fleet.

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## FEBRUARY WAS A BUSY MONTH FOR DEPT. OF JUSTICE AS THE FBI TARGETS HIGH TECH AND "CYBERCRIME."

Since the September 11 terrorist attacks, the U.S. Federal Bureau of Investigation has made the fight against cyber and high technology crime its third priority. The top two missions are to protect the United States from terrorist attack and against foreign intelligence operations and espionage.

The FBI has also changed its hiring practices to focus on recruiting a new type of agent that is experienced in the world of computers and information technology.

Toward that end, the bureau has established three joint FBI-Secret Service cyber-crime task forces and recently created a computer forensics laboratory in San Diego, with plans to establish additional labs.

The FBI has also created the National Computer Crime Squad (NCCS) which investigates computer fraud and violations. Federal interest computers are defined by law as two or more computers involved in a criminal offense, which are located in different states.

Computer crimes that the NCCS investigates includes telephone hacking (intrusions into the public switched network), major computer network intrusions, industrial espionage, pirated computer software and other crimes where the computer is a major factor in committing the criminal offense.

Here is an example of FBI enforcement activity during February 2003.

- **David Rocci, 22 of Blacksburg, VA** – who used the online screen name "krazy8" – pled guilty in Federal Court to importing and distributing "mod," chips that allowed individuals to play pirated games on game consoles, such as the Microsoft Xbox and the Sony PlayStation2.

His previous website, <www.isonews.com>, is now owned by the Feds. The U.S. government took over the Web site and domain name as part of a plea agreement. The site now carries the seals of both the Dept. Of Justice and the U.S. Customs Service along with anti-piracy warnings from the government.

During a two month period beginning in May 2002, Rocci imported and sold approximately 450 Mod Chips for approximately \$28,000. He still faces a maximum sentence of five years in prison and a \$500,000 fine.

- **Jason Tolleson, 30, of Smyrna, TN**, pled guilty on February 20<sup>th</sup> to charges that he and his JT Technology Company illegally manufactured and sold unauthorized DirecTV satellite television descrambling devices. He faces up to five years imprisonment and a possible fine of as much as \$6.9 million. Tolleson reportedly made more than \$3 million from the sale of the decryption devices.

- **Mohsin Mynaf, 37, of Vacaville, CA** was sentenced on February 13<sup>th</sup> to 2 years in federal prison for selling more than 4,500 bootlegged video tapes at three video stores. He was also ordered to pay more than

\$200,000 in restitution. The FBI found a movie videocassette reproduction lab with equipment hooked up to manufacture counterfeit movie videocassettes and labels at his home. Three other accomplices still face sentencing.

- **Mongkol Prapakamol, 37, a Thai national currently living in Rowland Heights, CA** has been indicted on federal charges of smuggling millions of dollars worth of counterfeit computer software and video games from Thailand into the United States. If convicted, Prapakamol faces a possible sentence of 105 years in federal prison and a fine of more than \$20 million.

- **Operation Decrypt, a year long FBI undercover operation**, led on February 11<sup>th</sup> to the indictment of 17 computer hackers accused of developing technology used to steal millions of dollars worth of satellite TV programming from DirecTV and the DISH Network. FBI agents closed in on the suspects, executing search warrants in seven states. One defendant, Randy Walter, 43, of West Los Angeles, pleaded guilty to manufacturing and selling thousands of satellite signal decryption devices and admitted that he was responsible for losses of nearly \$15 million. Others arrested were charged with developing illegal software, distributing descramblers and reprogramming smart cards. They face five years in prison and huge fines.

- On February 4<sup>th</sup>, **Donald Sockloskie, 51, of Concord, Ohio** was indicted for manufacturing, selling and distributing approximately 3000 illegally modified DirecTV Satellite Access Cards and 1500 DirecTV card reprogramming devices. He faces five years imprisonment and a fine of up to \$250,000.

- **Igor Serebryany, a 19-year-old Los Angeles student** at the University of Chicago was arraigned on an "economic espionage" charge that he stole and distributed sensitive trade secrets to the hacker community. The information about DirecTV's latest and most sophisticated access card had been turned over to DirecTV's Los Angeles legal counsel. Serebryany allegedly stole the information while working part-time for the Uniscribe Corp., a California document-imaging company that the law firm had retained. These secrets included confidential internal design notes and correspondence between DirecTV and NDS, the developer and supplier of its proprietary encryption and smart card technology. Serebryany is charged with three felony counts of theft of trade secrets, each one carries a maximum sentence of 10 years in federal prison.

- **William Fitzgerald, 53, of Arlington, Virginia**, pleaded guilty on February 3<sup>rd</sup> in federal district court to selling pirated software valued up to \$70,000 over the Internet. Fitzgerald, who will be sentenced on April 25, 2003 could receive a maximum sentence of three years in federal prison and a \$250,000 fine. Fitzgerald admitted to posting software programs on his web site and allowing them to be downloaded by the public.